YCCCART 2019/Y18

Geophysical survey at Brickyards, Kenn Road, Kenn

YATTON, CONGRESBURY, CLAVERHAM AND CLEEVE ARCHAEOLOGICAL RESEARCH TEAM (YCCCART)

<image>

General Editor: Vince Russett

A contemporary brick clamp firing ('scove kiln') by Xhosa brick maker near Ngcobo, South Africa

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Abstract

Three fields called 'Brickyard(s)' on the Yatton Tithe Map correspond to a reference to The Old Brickyard in 1806. Magnetic anomalies in the gradiometry survey suggest the possibility of brick burning in clamps, and the hypothesis is put forward that this was for the construction of The Brick House and its stables, garden walls and other features in North End, an anomalously early and large brick building for the area.

Acknowledgements

A Heritage Lottery Grant enabled the purchase, by YCCCART, of a Bartington Gradiometer 601 without which this survey could not have been undertaken.

This survey would also not have been carried out without the willing permission of the landowner, Mr G. Burdge, and his agent, Mr F Malton.

The authors are grateful for the hard work by the members of YCCCART in performing the surveys and Vince Russett for editing.

Introduction

Yatton, Congresbury, Claverham and Cleeve Archaeological Research Team (YCCCART) is one of a number of Community Archaeology teams across northern Somerset, formerly supported by the North Somerset Council Development Management Team.

Our objective is to undertake archaeological fieldwork to enable a better understanding and management of the heritage of the area while recording and publishing the activities and locations of the research carried out.

Site location



Fig 1: Site location

The site is a 0.8Ha field lying at ST41416767, immediately beside the B3133 Yatton to Clevedon road, in Kenn parish (but previously in Yatton), in North Somerset.

Land use and geology

The site lies on the alluvial clays of the Northmarsh, the underlying solid geology here being the Mercia Mudstones. The current land-use is pasture. There is no public access to this land.

Historical & archaeological context



Fig 2: Lidar DTM of site and surroundings: scale is height AOD in metres

The lidar detail is instructive. The 'island' at Ham Farm is the red (above 6.2m AOD) block to the lower right (beneath the scale). The straight red line at the left side of the picture is the bed of the old Clevedon Branch Line (1847-1966), while the curving line next to the site is the B3133.

Adjacent are the alluvial clays of the Northmarsh, generally pretty flat at 5-7-6.0m. Below this, the cyan and blue colours (below 5.7m) mark lower areas, usually field ditches, but occasionally, ploughed out palaeochannels, two of which meet in more or less the centre of the image. The low-lying area between the road and the slightly higher land in the interior of the surveyed field may be instructive (see below).

Land out on the edge of parishes is often less well-recorded than that nearer the village, and in marshland areas, latest enclosed. Here, several fields immediately north and east are named Barn's Marsh, a name that hints at late enclosure. The name was used for fields on the edge of both parishes, but the close relationship of Yatton and Kenn (Yatton is the mother church of Kenn, for example, and there was complex intercommoning) means this was probably a fluid boundary at best.



Fig 3: The site in 1799 (SHC DD\SAS/C212/MAP/167)

The first known map of the area (in 1799, above, field 590), shows the boundary of the field against the road set well back, compared to field 590a below it. Unfortunately, the survey for the map has not yet been transcribed, so the names and uses of the field and its neighbours at the time are not known.

The first known details of field names and land-use comes from the 1821 map of Yatton (see Figs 4 & 5 below).

The field is one of three that both in 1821 and 1840 (the Tithe Map) are called 'Brickyard(s)'. This name almost inevitably means 'a field within which (or adjacent to such a field) where bricks were fired (or stored)' (Cavill 2018: 46).

However, even by 1821, the field was being used as pasture (Fig 5), pushing its date for burning bricks back before that date. Indeed, there is a significant document of 1858 (SHC DD/FS/70/5/3), citing one of 1806 by John, Earl Poulett to James Taylor of Yatton ... (of) liberty to inclose the Old Brick Yard. As we have seen, the boundary of the field changed between 1799 and 1821, and this was probably the occasion.





Fig 4: The 1821 map of the area (SHC D/P/yat/13/1/3)

Note the line of 590a and 590b against the road now lines up neatly.

The area between the two boundaries is lower than the surroundings, and it may well be that this is where the clay-digging for bricks took place, beside the road.

Our field (the central of the three on Fig 5) was recorded as pasture in the 1821 survey of the map.

Fig 5: Field names from the 1821 map of Yatton

Brick is not a common building in the area before about 1800, and clearly any burning of bricks in this firld must have taken place before 1806 (and probably pre-1799). It certainly would have been

noteworthy enough to promote field names.

None of the large scale OS maps show earthworks of large ponds or structures at the site, so any necessary reclamation of clay pits had been made before 1799.

Survey objectives

In the existence of such an intriguing name as 'brickyard', the gradiometry survey was targeted at checking for the presence or former presence of brick kilns, clamps or clay pits.

Methodology

The survey of the fields was undertaken in July 2019 by teams from YCCCART using a Bartington 601-2 gradiometer.

The completed survey was downloaded to TerraSurveyor software and the resultant composite adjusted using the following filters:

Gradiometry

Colour - Red Blue Green 2 Band weight equaliser Grad shade Destriped Despiked Clip SD2

The report was written in Libre Office 5 Writer.

Photographs were taken by members of YCCCART, and remain the copyright of YCCCART.

Results



Most of the field has the typical appearance of alluvial deposits, with swirls due to the deposition processes that laid them down.

Again, unlike much work carried out on the Congresbury kilnfield (this site), but like the results from Kingston Bridge (2019/Y15, this site) the prominent grypes do not appear in the results. It is unclear how much this is due to the exceptionally hot and dry weather during the survey, or if it reflects a difference in the structure of the grypes (perhaps use of ceramic pipe drains in some cases and not in others).

However, what is clear from the axonometric display of the results (Fig 8 below), are two large spiked dipoles (arrows) indicating intense burning, and similar in both density and strength to those seen in surveys of the Congresbury kilns.



Fig 8: Axonometric display of gradiometry results. North indicated by larger black arrow

The enormous spike in the northeast corner of the field represents agricultural rubbish dumped in a gateway between fields.

Although brick clamps would be much larger than pottery kilns, it is important to remember that with the kilns, the burnt material largely remains intact.

With the brick clamps however, it is only the residual effects of the burning (and possibly brick debris) that remain, since by definition the material, once fired, will be removed from site.

Discussion

As stated above, most of the results from this field can be simply attributed to natural alluvial features, but the two large dipole spikes (Fig 8) imply intense magnetic enhancement, almost certainly from burning.

In view of the name of this and two adjoining fields, it seems a reasonable assumption that these are sites of brick burning. Since the date of burning was before 1800, and the phase seems short-lived, it seems (*pace* http://yaptonhistory.org.uk/articles/brick-making/) very unlikely that full brick kilns were built here, and the bricks would have been clamp-fired (cover illustration; Hammond 1981). The bricks are basically dried, and then stacked up in large heaps, with air gaps between the bricks for conveyance of heat, which is supplied by burning at the entrances to the air gaps.

The clamps may either be simply a heap of bricks, or if it is insulated with mud (as on the cover illustration), it is technically known as a scove kiln.

While little construction in brick is practised in the UK today (most modern houses are constructed from cast panels of concrete, sometimes surface coloured to resemble traditional bricks), clamp-firing of bricks is still common in developing countries (see below).



Fig 9: Brick clamp prepared for firing in rural India (https://en.wikipedia.org/wiki/Brick_clamp)

The final question is probably: why were bricks being fired in rural Yatton so long ago? There is very little tradition of brick construction in the area before about 1800: the notable brickyards in North Somerset (Weston-super-Mare, Clevedon, Portishead) tend to be in rapidly growing urban areas: most of North Somerset is well-provided with hardstone for building construction.

But in North End, one building (The Brick House) stands out as a potential recipient for locally burnt bricks.



Fig 10: The Brick House, stables and surrounding walls

This three-storey building is Listed Grade II, and dated by Historic England as 'early C18'. This would certainly agree with the size and shape of the bricks (with the perfect ones used for the house, and slightly less so for the garden walls). The building is even described on Donn's map of 1770 as a 'Gentleman's Seat', and would have stood out like a beacon in a hamlet of largely one or one-and a half storey cottages.

It was common practice to burn bricks as close to the proposed house site as possible. A good local example occurs at Lympsham, in Somerset. On the 1759 map of the village (Fig 11 below), the main inscription across the centre of the page reads:

'Pitt where ye / Clay was diged wch was burnt into / Brick for ye building of ye House'.

This was White House Farm in Lympsham, also Listed Grade II, although Historic England (presumably without the benefit of the map) have dated it 'late C18'.

10 utez 11

Fig 11: Site of clay pit for bricks for White House Farm, Lympsham 1759

Recommendations for further work

In the apparent absence of structures at the site, there seems little further that can be done to establish the nature of the site. Nothing further is recommended.

References

Cavill, P. 2018	A New Dictionary of English Field Names
Hammond, M. 1981	Bricks and Brickmaking

Authors

Vince Russett with Chris Short

Date

2019-08-03

Appendix: Day Sheet

†*

YCCCART Site S	Survey					
Project – Burge 4						
Survey date		11/07/2019				
Report date		11/07/2019				
Type /Instrument		Grad 601				
		Pace :1.4m/s	Grid size: 30m x30m			
		Lines/ <u>m :</u> 1	Pattern : Zig Zag			
		Range:100nT	Samples/m:4			
		Volume: High	Audio: On			
		Sensors:2	Threshold:30nT			
			Reject:50 Hz			
Location		Yatton Moor				
Ref		none				
Site name		Burdge 4				
Landowner		Mr. G. Burdge				
Tenant						
HER ref						
Site type		Grass				
Description		Open field surrounded by hedges and further open fields				
Period						
Geology						
Land use		Grazing				
Survey team and conditions						
04/07/2019	Team	Ferdie Arthur, Pete				
	Weather	Dry, warm				
11/07/2019	Team	m Pete, David, Philippa, Ferdie, Ian, Peter E				
	Weather	ather Warm. overcast				

Survey area		notes		readings				
		size	walk direction	max	min	mean		
Date	Grid number							
04/07/2019		Setting out base line and 1 row of grids						
11/07/2019	1	30 x 30	W	+20.5	-12.8	-1.1		
	2	30 x 30	W	+12.5	-21.9	-1.8		
	3	Partial M & R	W	+100	-31.5	-2.1		
	4	4 Failed grid – ignore data						
	5	Partial M & R	W	+7.1	-11.6	-2.6		
	6	Partial M & R	W	+44.3	-16.2	-2.4		
	7	30 x 30	W	+16.4	-11.4	-3.8		
	8	Partial M & R	W	+90.1	-34.1	-4.9		
	9	Partial M & R	W	+10.1	-10.3	-3.6		
	10	Partial M & R	E	+41.4	-25.4	-3.7		
	11	Partial M & R	E	+3.7	-14.5	-2.0		

Burdge 4 grids - *note grid 4 not used data ignored



Setting out detail – main grid Position <u>C</u> – Position of quiet spot <u>E 341415.8</u> <u>N 167702.9</u>





Terrasurveyor Grids